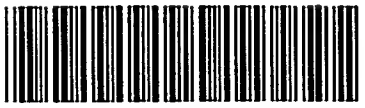
#5



OIPE

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RAW SEQUENCE LISTING DATE: 05/09/2002
PATENT APPLICATION: US/09/995,917A TIME: 12:53:05

Input Set : A:\salk45.txt
Output Set: N:\CRF3\05092002\I995917A.raw

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     6 <120> TITLE OF INVENTION: DAS5, A P450 PROTEIN INVOLVED IN THE
     7       BRASSINOSTERIOD BIOSYNTHESIS PATHWAY IN PLANTS
    10 <130> FILE REFERENCE: SALKINS.045A
C--> 12 <140> CURRENT APPLICATION NUMBER: US/09/995,917A
C--> 12 <141> CURRENT FILING DATE: 2001-11-27
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    14 <170> SOFTWARE: FastSEQ for Windows Version 4.0
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    17 <211> LENGTH: 382
    18 <212> TYPE: PRT
    19 <213> ORGANISM: DAS5
    21 <400> SEQUENCE: 1
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    24 Arg Ser Asp Ser Ile Gly Thr Phe Leu Gln Gln Arg Val Ser Arg Tyr
    25             20                  25                  30
    26 Gly Lys Val Phe Lys Ser Asn Ile Cys Gly Gly Lys Ala Val Val Ser
    27         35                  40                  45
    28 Cys Asp Gln Glu Leu Asn Met Phe Ile Leu Gln Asn Glu Gly Lys Leu
    29     50                  55                  60
    30 Phe Thr Ser Asp Tyr Pro Lys Ala Met His Asp Ile Leu Gly Lys Tyr
    31 65                  70                  75                  80
    32 Ser Leu Leu Leu Ala Thr Gly Glu Ile His Arg Lys Leu Lys Asn Val
    33                 85                  90                  95
    34 Ile Ile Ser Phe Ile Asn Leu Thr Lys Ser Lys Pro Asp Phe Leu His
    35             100                 105                 110
    36 Cys Ala Glu Asn Leu Ser Ile Ser Ile Leu Lys Ser Trp Lys Asn Cys
    37         115                 120                 125
    38 Arg Glu Val Glu Phe His Lys Glu Val Lys Met Phe Thr Leu Ser Val
    39     130                 135                 140
    40 Met Val Asn Gln Leu Leu Ser Ile Lys Pro Glu Asp Pro Ala Arg Leu
    41 145                 150                 155                 160
    42 Tyr Val Leu Gln Asp Phe Leu Ser Tyr Met Lys Gly Phe Ile Ser Leu
    43                 165                 170                 175
    44 Pro Ile Pro Leu Pro Gly Thr Gly Tyr Thr Asn Ala Ile Lys Val Arg
    45             180                 185                 190
    46 Ser Asn Arg Asn Ile His Gln Asn Ala Ile Ile Glu Asp Met Asn Asn
    47         195                 200                 205
    48 Ala Ile Arg Glu Glu Asp Phe Leu Asp Ser Ile Ile Ser Asn Glu Asp
    49     210                 215                 220
    50 Glu Glu His Ala Ala Ile Arg Ala Lys Lys Gly Asp Gly Glu Leu Leu
    51 225                 230                 235                 240
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53                 245                 250                 255
54 Glu Ala Leu Arg Cys Gly Asn Ile Val Lys Thr Val His Arg Lys Ala
55             260                 265                 270
56 Thr His Asp Ile Lys Phe Lys Glu Tyr Val Ile Pro Lys Gly Trp Lys
57         275                 280                 285
58 Val Phe Pro Ile Phe Thr Ala Val His Leu Asp Pro Ser Leu His Glu
59     290                 295                 300
60 Asn Pro Phe Glu Phe Asn Pro Met Arg Trp Thr Lys Thr Thr Ala Phe
61 305                 310                 315                 320
62 Gly Gly Gly Val Arg Val Cys Pro Gly Gly Glu Leu Gly Lys Leu Gln
63                 325                 330                 335
64 Ile Ala Phe Phe Leu His His Leu Val Leu Ser Tyr Arg Trp Lys Ile
65             340                 345                 350
66 Lys Ser Asp Glu Met Pro Ile Ala His Pro Tyr Val Glu Phe Lys Arg
67         355                 360                 365
68 Gly Met Leu Leu Glu Ile Glu Pro Thr Lys Phe Leu Glu Asp
69     370                 375                 380
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75 <213> ORGANISM: DAS5
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80 aacattaaca tattattata tgtttttttat attaaattta atatatctac aatattttca 180
81 aacatatcaa ttatttattt ttacaaatta tattattaaa tagttttatt atttttaaaa 240
82 ccataattaa acataattaa acattacttt acatataaaa tcataataaa aaatttataa 300
83 attaaatata aaattacata taaaaccatg ataacataaa ttaaatagaa aaaatatata 360
84 aattaaaccg aaattacata taaaaccatg ataacataaa tcaaagctaa ctatattatc 420
85 tattatggtt ttactcttca tttgatgatg caccaaactt ttgtcatata tgctcaacta 480
86 ggtcatcttt tagttgttgg tgcatatctc tatcacgaag tcgaattcga ttgccgagaa 540
87 tgttgcaaaa taaaaataga aaatttttaa gttattatta tgtttaatgc ttaactaaca 600
88 ccaattaaat aatattcgta tataatttaa acatatacat gatgagagct tattatatag 660
89 ataatttaat tttatgaatt ttaaaagtaa aaataaaaaa aataacaaac atataaagta 720
90 tttaattgat gttataaagt atagataatt ttatttataa caaagaaaag aaattaataa 780
91 caaggtgaca tatggaagag agagaaagtt tctccaagtt tctcatttca gaaacgattc 840
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97 gtgtcattta cgaagataga gagtttactt tgaaagaaca taaatttata ccaacaaact 1200
98 tattgcatga gggtcccaaa ttgcgtacac gtgcgtcaat ttttcatcat ttagtttctt 1260
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101 tctcttaaaa aaatgtttac acgaagtatt tagattttcc tttgttattt tactagctag 1440
102 ttaaccatga aatcatttga gaggacaaga atatatataa aacattattt tattctcagt 1500
103 atcaaaaaaa aaaatttatt gttttcataa tttcaatttt ttttttttatg tgttctagtt 1560
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RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/995,917A

DATE: 05/09/2002
TIME: 12:53:05

Input Set : A:\salk45.txt
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105 acataaataa taataataat aataataata ataataataa taataataat aataataata 1680
106 ataaaaataa taatgttttg cataccgccg ttttaccatt ttgattgtca attctaaata 1740
107 tattgttatc ttttatagtt attttttatt attaaaaaaa tgtgtactgt ttatgtcaat 1800
108 agtagaatta gacaaagtat gtgcaatctt tttcgcaata ttcctatttt attagcaaac 1860
109 ggtaaaaaaa ataaaataaa aacaagtaaa acatttgtca tagtctagtt attaattata 1920
110 gtgaaatcat atgattatgt aataatcatg tttttaaata ctaataagac tatatggata 1980
111 tcataagcag atacaagttt tagcttgtta tatacatgct taattaatta ttttttcata 2040
112 tcttaagata atttgaaata gcttatatat gatattgtta aatttaatat ctaatccaat 2100
113 agtactggat ttttaattat atatatatat atatattttt aaataattat taaacattaa 2160
114 taattagata tgttaaattc tagaagaata aattacatgt tatcatattg ggagaatagt 2220
115 catatttcca ttgttatcac tgatttgatt ccaagtgtgt agtatgagag atttctgtag 2280
116 gatgcaacaa tatactttct ttttatttac actaaaatat tatctaaatc aacaataaga 2340
117 atgattatat aaagattatt ttttctgtta tacataagaa aagagttgtt ggtttctctt 2400
118 ttttgtctct acacaattag gaatgttccc ctatagtata gtatatattt tactttcgtg 2460
119 gatcttctta gatatactac ctttaatttg gttgtttgtg agtgtgagtg ttagtgtaag 2520
120 tgtggtgtgg tgtgtgtatg tgtatgtgta tatatatata tatatagaga gagaggtata 2580
121 tagatagacc aagaagaaaa catcataata gatactcaat tatcaataaa aggatcttaa 2640
122 tctaattcaa agacaatgct ggtcttatcc atcttcttgt cgttaggatt gttctttctc 2700
123 tctattttga ttctttatat ttcaatttct aagaaaaatg aaacaaacga tcatcactca 2760
124 tcactaactg gcagcatggg atggcctttc attggagaaa ctatttcttt cttcaaacct 2820
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130 aagaaaaaag taatgttcac agtactacag aagattcata tctgattttt ttgcatacat 3180
131 gacaatttga ttgcctacca atgtttttat gattttattt tgtaaatcca atttatatac 3240
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RAW SEQUENCE LISTING DATE: 05/09/2002
PATENT APPLICATION: US/09/995,917A TIME: 12:53:05

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196 tgtggtggaa aagcagtagt ctcatgtgac caagaactca acatgttcat acttcaaaac 180
197 gaagggaagt tgtttacatc ggattatcca aaagcgatgc atgacattct cggcaaatat 240
198 tcccttctat tagccaccgg agaaattcac aggaaactaa aaaatgttat tattagcttc 300
199 atcaatctca caaagtcgaa acctgacttt cttcactgcg cagagaacct ctctatctcg 360
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201 actctcagtg ttatggtaaa ccaactcttg agcatcaagc cagaagaccc agcaagactt 480
202 tatgtattgc aagatttttt atcttatatg aaagggttta tctccttacc aataccgctt 540
203 ccaggaacgg gttatacaaa cgcaattaag gttagatcca atcgtaatat acatcaaaac 600

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PATENT APPLICATION: US/09/995,917A TIME: 12:53:05

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211 cttcatcatc ttgtcctctc ctataggtgg aaaataaagt cagatgaaat gccaatcgcg 1080
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213 gaagattag 1149

VERIFICATION SUMMARY DATE: 05/09/2002
PATENT APPLICATION: US/09/995,917A TIME: 12:53:06

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L:12 M:270 C: Current Application Number differs, Replaced Current Application No
L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date